ALA American Library Association | INSTITUTE of Museum and Library SERVICES | Knology

MEDIA LITERACY FOR ADULTS

ARCHITECTURE OF THE INTERNET

PROGRAMMING GUIDE

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ABOUT THIS GUIDE

The American Library Association (ALA) Public Programs Office, working with library and media literacy thought leaders, has created *Media Literacy for Adults: Architecture of the Internet Programming Guide* to help libraries implement adult programming in their communities. This initiative is made possible, in part, by a grant from the Institute of Museum and Library Services and continues the work begun in **Media Literacy Education in Libraries for Adult Audiences**. In this document, we have included resources, best practices, tools, and recommendations that we believe are useful for increasing adults' understanding of how the unseen parts of the internet influence media consumption.

This guide has been created for out-of-school adult audiences whom library workers will generally meet in a public library context. However, many of the approaches and best practices explored are equally appropriate for a classroom or other library settings.

We welcome your feedback and questions at **publicprograms@ala.org**.

INTRODUCTION

What determines the information that shows up in online search results? Why do results vary from person to person when the same search terms are used? Why do vacation ads appear across different websites after searching for a travel agent?

The answers to these questions point to a set of structures that affect the information we all see and find online. Algorithms, cookies*, and advertising technologies are usually invisible to users, but they significantly affect what people see online and have real-world consequences.

For the full list of definitions used in this guide, please refer to pages 10–11. Defined words are also marked with an asterisk*. For more definitions, please see **Media Literacy in the Library: A Guide for Library Practitioners**.

Your library can help adult patrons understand the ways personalized media experiences and algorithms influence people's access to and understanding of internet content. This guide is designed to provide you with resources to increase your adult patrons' media literacy skills in this vital area.

In the first section, we discuss what the phrase "architecture of the internet" means. The following two sections provide tips and ideas for offering programming and services on the subject, including how to integrate architecture of the internet concepts into your library's existing offerings. The final two sections include recommendations for expanding your library's collections and offer additional resources to help library staff dive deeper into this area of media literacy.

Media literacy can empower you to...

- tell the difference between a piece of journalism and a piece that mimics journalism, but is not.
- tell the difference between news stories, opinion pieces, and propaganda.
- think critically about online photos and images, including who produced them and where they came from.
- identify biases in news content.
- be a critical consumer of news media content.

DEFINING THE "ARCHITECTURE OF THE INTERNET"

When most of us think about the internet today, we probably picture an open space that allows for the free exchange of information and ideas. However, it wasn't always this way. How information flows online has fluctuated between periods of being open and closed. Open online platforms* allow for largely unmoderated sharing of information between users, while closed platforms* impose specific limits on what information users can share and how they can share that information. These two platform types are also distinguished by their levels of interoperability between one another. Understanding these flows helps build knowledge around how we interact with and respond to information from online sources.

What we think of as the internet is largely the product of a communication protocol set up through an internet service provider (ISP)* such as Comcast, or in the case of cellular service, a company like T-Mobile.[1] The ISP creates a connection for the user that allows for the transfer of data (text, video, audio, etc.) between different computing devices. These data transfers start out as requests for data from users to large data centers that facilitate those requests and deliver it back to computing devices in fractions of a second. These requests for and deliveries of data, and the channels through which they pass, are what constitute the modern internet.

1. "The Complete List of Internet Companies in the U.S.," BroadbandNow.com.

A Brief History of Internet Platforms

The backbone of the internet was developed in the late 1960s and early 1970s. At that time, only college campuses and businesses had the equipment, such as room-sized computers that spoke in specific computer languages, to transmit and receive data through telephone lines, which allowed these computers to directly connect to one another. Later developments, like internet routers and network protocols, allowed multiple computers to connect to one another simultaneously. The development of personal computers in the 1980s ushered in innovations like the Hayes smartmodem, which allowed these personal computers to connect to the internet through telephone lines.

While some enterprising users connected to the internet to share messages through digital bulletin board services (BBS or Usenet[2]), more people in the early 1990s connected to the internet through ISPs like America Online (AOL), Prodigy, and CompuServe. Unlike BBSes, which could be tedious to browse and difficult to connect to, services like AOL presented the internet through a graphics-driven, relatively closed platform that was easy for novices to use.[3,4] Because of their user-friendly features, AOL and other closed services attracted more people than bulletin board services.[5] Their design necessitated controlling much of what users could access, since most home internet connections (known as "dial-up") were slow and poor at handling multimedia content, such as images and audio.

As both connection technologies and internet software evolved, more complex tools began to emerge. The development of the web browser and its release in 1993 offered users relatively easy access to what was becoming known as the world wide web.[6] This "web" was a system of organizing and sharing information online in the form of webpages. These pages offered users a wider variety of content via personally and professionally created websites consisting of a collection of similarly styled webpages. Websites could be created by any user who knew how to code a webpage and had access, which allowed for more open and free use and sharing of information.

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2. "Usenet: A Bulletin Board for Unix Users," Sandra L. Emerson, *Byte Magazine*, October 1983, courtesy of Internet Archive.
3. AOL offered access to Usenet boards to its users through a section of the ISP's software in 1993, ushering in an "Eternal September," referring to the time at which newcomers enter an existing social system, such as a school.
4. "Personal Computers; A Cyberspace Atlas: America Online," Peter H. Lewis, *The New York Times,* November 15, 1994.
5. AOL, during its heyday was the largest online service in the world, reaching more than 34 million users in 1996. "AOL's History of Growth and Decline," *The New York Times,* May 12, 2015.
6. AOL added a web browser to its software between 1994–1995, "AOL Exec Details Choosing IE," Jim Hu, CNET, January 2, 2002.

However, finding a website could be onerous for internet users, who needed to know the exact web address of the site to do so. To help with finding websites, authors of weblogs (also known as "blogs") played a key role in promoting websites for people to visit. Early blogger Justin Hall pioneered the format with his "Links from the Underground," which presented website links to readers as part of a personal online diary.[7] The advent of the internet search engine also allowed people to search on their own for websites relevant to their interests and needs. Early internet search engines included WebCrawler (still accessible today), Lycos, Infoseek, and Yahoo, all founded before Google launched in 1998.

As more people gained access to information online, both in workplaces and at home, new technology companies capitalized on virtual communication to help build online communities. AOL was an early pioneer of what we think of today as social media, which generally refers to building communities around the use of communication mediums. On AOL, this developed through text-based communication in chatrooms and instant messaging. These tools allowed AOL to maintain a high number of users, even as the open web continued to flourish during the late 1990s.

AOL's high usage was largely due to the "network effect"[8]—the phenomenon whereby users ascribe value to a service based on the number of users that service has. For a communication platform to have utility for a user, other users must be available for them to interact with who have similar interests and other shared characteristics that encourage them to engage with one another. These network effects, among other things, have driven moves toward aggregating users into single, closed platforms for interaction. Facebook, Instagram, Snapchat, and X (formerly Twitter), for example, all come with some form of direct messaging service.

As the amount of information that is shared online continues to increase, these siloed services play a large role in controlling the content users are served and shown. More than 3.2 billion images and 720,000 hours of video are shared online daily,[9] an amount that is impossible for even the collective of internet users to sort through. As such, platforms use algorithmic means to curate content based on a user's previous behavior. Platforms like TikTok boast of their ability to quickly figure out a user's interests and serve them "relevant" content that will keep them engaged. These platforms and algorithms that drive them are a key part of the contemporary internet.

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7. "Your Blog or Mine?", Jeffrey Rosen, *New York Times Magazine*, December 19, 2004.
8. Read more on the Network Effect: "What Is the Network Effect?", Wharton Online, January 17, 2023.
9. "3.2 Billion Images and 720,000 Hours of Video Are Shared Online Daily. Can You Sort Real from Fake?", The Conversation, November 2020.

Attention Economy and Algorithms

The concept of "attention economy"* first emerged in the 1970s from the work of Herbert A. Simon, who merged the study of economics with the psychological concept of attention. In Simon's view, our attention becomes a scarce resource due to information overload. He famously said, "A wealth of information creates a poverty of attention."[10] Fifty years later, this still rings true as various social media networks all compete for our attention , time, and ultimately, our wallets.

The "attention economy" concept in scholarly research is also called "the economization of cognitive capacities."[11] Analysis of this research is beyond the scope of this guide. Still, it is important to highlight the works of Jonathan Beller,[12] Michael Goldhaber,[13] and Tiziana Terranova,[14] among others, who have researched this phenomenon in depth. In popular culture, the Netflix production *The Social Dilemma* put a spotlight on the attention economy and how big tech companies use customized recommendations, subscriptions, "like" buttons, following, friending, and other methods to keep us attached to our screens for as long as possible.

To understand the architecture of the internet, we need first to grasp the meaning of algorithms* that guide the design of the internet. According to the *Bloomsbury Guide to Human Thought*, in computing, "an algorithm (from the Latinized form of the name al-Khwarizmi, the ninth-century Persian mathematician) is a set of rules determining how a task is to be performed."[15] In other words, algorithms are systematic procedures that define a sequence of operations. Google's "PageRank" algorithm, for example, serves users search results that are ranked based upon information such as how often a webpage is linked to by other sites, the location information of the user, and past searches, among other information. For a long time, algorithms were believed to be neutral and "driven by math"; however, works such as Safiya Noble's book *Algorithms of*

10. "Paying Attention: The Attention Economy," Berkeley Economic Review, March 31, 2020.
11. "Paying Attention: Towards a Critique of the Attention Economy," Patrick Crogan and Samuel Kinsley, *Culture Machine* 13, 2012.
12. "Paying Attention: The Commodification of the Sensorium," Jonathan Beller, Cabinet Magazine 24, Winter 2006–07.
13. "The Attention Economy and the Net," Michael H. Goldhaber, First Monday 2:4, April 7, 1997.
14. "Free Labor: Producing Culture for the Digital Economy," Tiziana Terranova, *Social Text* 63, 18:2, Summer 2000.
15. "Algorithm," *Bloomsbury Guide to Human Thought,* Kenneth McLeish, ed., Bloomsbury Publishing, 1993.

Oppression[16] and the documentary *Coded Bias*[17] debunked these misconceptions. Algorithms also serve an economic purpose: to increase the time a user spends on an app or website to deliver more ads.

Understanding the bias behind algorithms is essential because even in our everyday vocabulary, we use "Google it" as a synonym for looking for the correct answer. If the algorithms are biased and intended to generate profit, then whose "truth" are we serving?

These questions become even more critical with the rise of artificial intelligence (AI)* and tools such as ChatGPT.* AI is the capacity of computers or other machines to exhibit or simulate intelligent behavior[18] similar to humans' abilities and skills, e.g., decision-making, writing and speaking. Although the concept of AI is not new, it went viral with the 2022 launch of ChatGPT by the company OpenAI. The acronym GPT stands for "generative pre-trained transformer" and refers to a chatbot that uses a computational model to produce human-like responses. Using what is known as a large language model (LLM), ChatGPT is trained to predict the next word in a statement and to create a response based on this prediction. ChatGPT has no way of discerning fact from fiction, and many reports have cast aspersions on the quality of its responses.[19] Although we do not know yet how ChatGPT will impact libraries and librarianship, there is already a need to address these tools from the standpoint of bias, privacy, and intellectual property issues.

16. *Algorithms of Oppression: How Search Engines Reinforce Racism*, Safiya Umoja Noble, New York University Press, 2018.
17. *Coded Bias*, Shalini Kantayya, Dir., 2021. Netflix.
18. "Business Research Guides," Library of Congress.
19. "ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope," Partha Pratim Ray, *Internet of Things and Cyber-Physical Systems* 3, 2023. "Deceptive AI Ecosystems: The Case of ChatGPT," Zhan, Xiao, Yifan Xu, and Stefan Sarkadi. Proceedings of the 5th International Conference on Conversational User Interfaces, July 2023.

DEFINITIONS

Algorithms: Algorithms, a fundamental concept in computer science, are systematic procedures that define a sequence of operations. For a long time, algorithms were believed to be neutral and "driven by math." However, algorithms serve primarily an economic purpose: to increase the amount of time that a user spends in an app or website to deliver more ads.[20] Algorithms that select and serve content to internet users have also been found to perpetuate harmful stereotypes.[21]

Artificial Intelligence (AI): AI is the ability of a computer or computer-controlled robot to perform tasks commonly associated with human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

Attention Economy: The concept of attention economy first emerged in the 1970s from the work of Herbert A. Simon in response to fears of information overload. Simon merged the study of economics and the psychological concept of attention. Simon viewed attention as a scarce resource in an information-rich world; as he put it, "a wealth of information creates a poverty of attention." In recent years, the concept has become more popular, particularly as more social media networks compete for our attention by providing content through customized recommendations, subscriptions, "like" buttons, following, friending, and other methods intended to keep us attached to our screens.

ChatGPT: The acronym GPT stands for "generative pre-trained transformer" and refers to a chatbot that uses a computational model to produce human-like responses. The model ChatGPT uses, known as a large language model (LLM), is trained to predict the next word in a sentence or statement in order and create a response based on this prediction.

"Closed" Internet Platform: For the purposes of this guide, a closed platform provides access to information through technologies available only to select users (generally those who register for them).

Cookies: Pieces of data stored on a person's computer by a website to enable the site to "remember" useful information, such as previous browsing history on the site or sign-in information.

20. For more on algorithms and their use, see "Architecture of the Internet" section of Media Literacy in the Library: A Guide for Library Practitioners, American Library Association, November 2020.
21. See: *Algorithms of Oppression: How Search Engines Reinforce Racism*, Safiya Umoja Noble, New York University Press, 2018.

Data Privacy and Data Security: Though often used interchangeably, these terms have different meanings. Data privacy measures include regulations created by governments and other entities to manage personal data, while data security focuses on protecting data from malicious attacks and for-profit exploitation.

Echo Chamber: A situation in which a person experiences a tailored media experience that provides them only with viewpoints and perspectives that largely mirror their own. Many experts argue that by using algorithims designed to feed people content similar to that they've already engaged with, social media sites create echo chamber-like environments.

Internet (or Online) Platform: A collection of technologies that provide services of value to both users and creators on internet-connected devices. For users, these services fulfill a need (e.g., streaming music and video or sharing information between other users). Platform creators derive value through revenue generated by providing services to users.[22]

Internet Service Provider (ISP): A company or organization that provides access to the internet through a physical connection (such as cable, telephone, or fiber-optic cables) or wireless cellular connection.

"Open" Internet Platform: For the purposes of this guide, an open platform provides access to information online through technologies that facilitate access between information sources instead of guiding or limiting access to them. An example of an open platform would be a web browser, which facilitates the browsing of multiple websites. Open platform technologies should neither limit nor guide users toward specific content without express instruction from the user.[23]

Search History: A personal record kept by a search engine of a user's current and past search prompts. In a web-based search engine, such as Google, a user's search history is used as information to help optimize future search prompts. These records can be connected to a registered user of a site, and follow them on each computing device they use (as long as they are signed in to the same service on that device), or can be kept on a single device in the form of what is called a "cookie."

22. For more, see the UK Parliament's definition and taxonomy of online platforms such as in "Online Platforms and the Digital Single Market," House of Lords, Select Committee on European Union, 2016.
23. For more on open and closed platforms, see "Opening Platforms: How, When and Why?", Thomas R. Eisenmann, Geoffrey Parker, and Marshall Van Alstyne. Working paper 09-030, Harvard Business School, 2008.

PROGRAMMING

Planning and implementing effective media literacy programming can be challenging, especially when talking about a topic as complex as architecture of the internet.

Some people simply are not interested, and because of the subject's abstract nature, keeping audiences engaged when discussing it can be hard. Others may think they already have good media literacy skills and do not need to learn more. Others simply do not value these skills. In light of these challenges, how can libraries teach these skills?

Fortunately, traditional classes are not the only way to teach media literacy. Media literacy can be added to other program types to engage participants and teach needed skills outside of a traditional class setting, including in-person, passive, and virtual programming. Specific programming examples are outlined later in this section.

When incorporating media literacy topics into seemingly unrelated programs, start by thinking about successful events you have implemented in the past. What is a popular program that you can re-create with a slight media literacy twist? The next step requires some creativity and media literacy knowledge. How can you add media literacy into a program you have already created? Because media literacy is functionally related to creating and sharing information, the program idea should have some connection to these topics to really work. Programs that can easily incorporate technology work well. Another approach is to take a large event you are planning and add a small media literacy element to it. For example, if you are hosting an exhibit on historical neighborhoods at your library, have a table or discussion that illustrates how architecture of the internet can affect a group's historical representation as part of your event.

TYPES OF PROGRAMMING

Programs that teach patrons about the architecture of the internet play a vital role in empowering them to navigate the digital world with confidence and competence. By offering media literacy programs, libraries help patrons become more discerning and informed internet users, which is essential in today's information-rich digital age. These skills not only benefit individuals, but also contribute to a more informed and engaged society.

As patrons have varying levels of knowledge and experience with internet technology and terminology, it is essential to design programs that accommodate and support people of all abilities and backgrounds. Below are examples of library programs that teach media and internet literacy skills that allow patrons to think critically about how the architecture of the internet influences what they are seeing and doing online.

Book Talks and Book Clubs: While often a format to discuss current bestselling novels and timely topics, book programs can also be used to teach concepts related to the architecture of the internet. Books such as Tim Maughan's *Infinite Detail* (The Guardian's pick for Best Science Fiction Book of the Year) could generate a thought-provoking discussion around the importance of cybersecurity and privacy tools on the internet.

Virtual Programs: Since the beginning of the COVID-19 pandemic, libraries have increasingly hosted programs in virtual spaces, reaching patrons from their home computers and on handheld devices. Virtual programs can be synchronous (with participants attending the session at the same time) or asynchronous (with learning occurring at different times). One example of a virtual program about the architecture of the internet is a webinar exploring the functionality of search engines or how algorithms work.

Workshops and Courses: These topical learning sessions can introduce patrons to modern technologies (like coding classes, AI explorations, or virtual reality experiences) or cover internet basics (how to use search engines effectively, understanding website credibility, navigating social media, and strategies for creating online privacy and safety settings).

Community Events: Community events bring people together, often for a guest speaker or panel of experts. Consider partnering with a local tech company, university, media literacy organization, AI expert, or journalist to extend resources, services, and expertise.

PROGRAM SPOTLIGHTS

In this section, we take a closer look at four programs from libraries across the country that teach patrons about the architecture of the internet. These examples provide insight on the design and challenges of such programs, along with tips for replicating them at other libraries.

1. Create an Interactive Experience

Program: Disinformation Crime Scene
Library: **Dallas Public Library**, Dallas, Texas

Audience: Teens and adults

Description: Participants play detective and solve a crime, but the clues do not add up. In a traditional crime scene program, clues left at the scene lead to the killer, but in this program, they lead you in the wrong direction. Teach the importance of accurate information through this hands-on challenge.

Picture this: It is a dark and stormy night and someone was murdered. Clues are left at the scene, and you have narrowed it down to three suspects. You have their laptops, internet search history*, and access to their social media pages. Will you be able to solve the crime?

Why it works: Disinformation Crime Scene uses a true-crime twist to share media literacy principles. With the right misleading clues, the Disinformation Crime Scene can teach any media literacy principle. To focus on architecture of the internet, clues should involve using the internet and social media versus physical clues, such as fingerprints. For example, present clues that came from a cellphone or the internet, incorporating language about search algorithms and how internet searches will be different based on the individual and their search history. Also take the opportunity to talk about echo chambers* and how they form and develop.

Budget: $50–$100

Potential challenges: This is a labor-intensive program to prepare for. Make sure you have time and staff to make it successful. You will also have to limit the number of people who can solve the crime at once. Plan for multiple programs and have customers register in advance, if possible.

PRO TIP To make your budget go further, use furniture and resources you have on hand to set up the crime scene.

2. Host a Virtual Community Event

Program: Civic Lab: How Do We Know What News to Believe?
Library: **Skokie Public Library**, Skokie, Illinois

Audience: Adults

Description: The program **Civic Lab: How Do We Know What News to Believe?** introduced the concept of media literacy, highlighting its vital role in a society in which people trust one another.

Following a short introduction by Skokie resident and Northwestern media literacy researcher Dr. Michael Spikes, patrons viewed ***Trust Me***, an award-winning documentary (previously shown on PBS) exploring human nature, information technology, and the ways media literacy helps people trust one another and creates a more resilient society. The screening was followed by a panel discussion with Rosemary Smith, the film's producer, as well as Dr. Renee Hobbs and other faculty from the **Media Education Lab**, an organization working to improve media literacy education.

The goal of the viewing and discussion was to help participants learn simple—if not always easy—ways to examine their biases, get outside their echo chambers, and better engage in substantive dialogue about topics that would typically divide people.

Why it works: This program is a prime example of how civic programming can overlap with other sorts of programs that initially may fit under an advisory or general category. Often a film or specific piece of media can be useful as a starting point for conversation, reflection, and insight. Skokie Public Library hosted a similarly formatted (non-civic focused) podcast listening/discussion session, as well as article discussions. Either could overlap nicely with a civic topic for the right episode/article.

Budget: $75–$275. You should budget for an honorarium as well as a public performance license to screen the film. However, since Skokie Public Library's speaker had positioned this event as part of the Digital Media Lab's Summer Institute in Digital Literacy, their group paid the license fee and did not require any honorarium.

PRO TIP **To make this event successful, provide resources on the topic of "lateral reading"[24]—a strategy for who's behind an unfamiliar online source.**

Potential challenges: This documentary includes a discussion of vaccine controversies, and as such, may prompt strong reactions from viewers. To discourage audience members from spreading misinformation, library staff may find it necessary to let viewers know that the goal of the event is not to debate the scientific evidence surrounding vaccines or other kinds of medical care, but instead, to come up with ideas about how to protect ourselves from dis- and misinformation. It may seem complex to the average patron to navigate the implications of information dissemination, trust, and how the internet's functionality contributes to the news we see online in our news feeds and on social media. Fostering a collaborative, interactive environment where participants can ask questions and share their perspectives enhances the overall learning experience.

24. See lessons in "Intro to Lateral Reading," Civic Online Reasoning.

3. Develop Innovative Trainings and Workshops

Program: AI Shakespeare
Library: **Dallas Public Library**, Dallas, Texas

Audience: Teens and adults

Description: Ask ChatGPT to write a Shakespearean play. Participants can work together to come up with starting points and help add details as ChatGPT writes.

Why it works: This is a fun way to demonstrate the benefits and limitations of AI and talk about how patrons use information on the internet, how information is organized online, and how to use media literacy skills when using a platform like ChatGPT.

Budget: $0 - $50

Potential challenges: ChatGPT is ever-changing, so be prepared for the play to not go exactly as planned. There is also a possibility the server will go down the day of the program! If you are not well-prepared, this program may be very short. Make sure you have planned well enough for a 30- or 45-minute program.

PRO TIPS **Make sure you are familiar with ChatGPT and its capabilities before the program begins. Have prompts ready (or at least an idea of what you want the play to look like). The University of Arizona has a LibGuide on ChatGPT.**

This program goes well alongside other programs. Make it a part of a bigger event if you are worried about attracting a large enough audience. Shakespeare is not your only option; you could have ChatGPT write songs, draw something, or write a story on whatever theme works best for your audience.

4. Build a Collaborative or Community Group

Programming Initiative: The Critical Media Literacy Collaborative
Library: **Atkins Library at UNC Charlotte**, Charlotte, North Carolina

Audience: College students, faculty, staff, and community members

Description: In response to the rise of misleading and false information online, Atkins Library at UNC Charlotte created the Critical Media Literacy Collaborative (CMLC). One of the group's goals is conducting outreach events to spread awareness of the need for media literacy skills and to create strategies for effectively identifying, assessing, and sharing online information.

Since 2020, the collaborative has hosted a variety of outreach events, including guest presentations, video screenings, and panel discussions on topics like fake news, online rumors, disinformation and misinformation, medical mistrust, fact-checking, political influences, and local news. Successful programs have included "Election 2020: How to Verify What You Read, See, and Hear Online," a Zoom presentation with Canadian journalist Craig Silverman held in the lead-up to the 2020 election; "COVID-19 Vaccinations: Science, Politics, Mistrust, and Misinformation," a panel discussion moderated by a local news anchor; and "Think Locally: Why Local News Matters," a panel of Charlotte journalists discussing local news and fact-checking.

Each of these outreach events featured discussions on the impact algorithms have by creating filter bubbles that isolate users from content that is more diverse. Silverman discussed the concept of confirmation bias as algorithms curate content for us that confirms our existing beliefs. During the vaccinations panel, presenters explored internet security and privacy, and concerns about the impact of misinformation and disinformation. The Charlotte journalists spoke about the power of corporate owners and search engine optimization.

Why it works: Creating a media literacy or digital literacy collaborative gives experts, staff, and patrons an opportunity to bring their ideas and skills into creating programs and providing services. By working with a collaborative, you may increase access to resources, develop partnerships, and host large events for the community, both on and off campus.

Budget: Speaker fees may range from $0 to $400.

Potential challenges: Coordinating schedules, managing the details involved in event planning, holding events on Zoom.

PRO TIP Think about aspects of media literacy that are relevant to your campus or library and create programs addressing those issues. Adapt event formats for your anticipated audience size and how you want people to communicate with one another (interactive, debate, individually). Start planning early.

ADDITIONAL PROGRAM IDEAS

Library-Wide Read of *Feed* by M.T. Anderson

Host a book discussion that focuses on important media literacy and architecture of the internet principles. M.T. Anderson's *Feed* (2002), a National Book Award finalist, is a young adult novel about a futuristic dystopian world where the brains of U.S. citizens are implanted with devices called feeds that connect to the internet. The book, a dark satire that explores what happens when a teen attempts to stop the connection, is a provocative exploration of media and corporate data mining and power.

Blog-Writing Program

Host a blog-writing workshop and make search engine optimization (SEO) writing a part of it. Use this as an opportunity to explain how SEO works and illustrate challenges that SEO creates when looking for information on the internet.

Meet Your Local Journalists

Host a discussion about what news goes into a printed newspaper versus news site and why, including an exploration of how websites use SEO terms and tags to influence the way content is served up to readers in search results and social media feeds. This gives attendees the opportunity to build trust with local news outlets and learn more about how media is disseminated through multiple outlets.

Succession Fandom Party

Invite fans of HBO's *Succession* to the library to discuss this hit show, play games, and work out a business deal. As part of the program, discuss the media literacy components of media ownership and architecture of the internet by relating them to plot points in the show. Why would the Roys want to influence the media through their channels? How could they use their media outlets and social apps to manipulate the way consumers think?

Do You Control Social Media, or Does Social Media Control You?

Screen the Netflix documentary *The Social Dilemma* in your library, then begin an audience discussion about the economic and psychological impacts of social media. The following quotes from the documentary can serve as conversation starters:

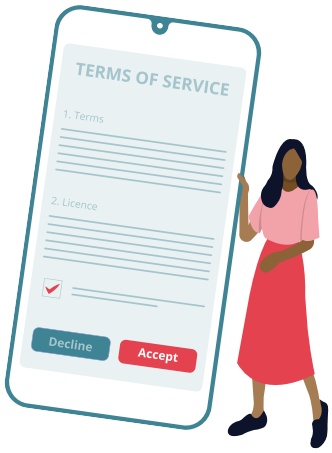
- "If you're not paying for the product, then you are the product."
- "Every time you see it there on the counter and just look at it. And you know if you reach over, it just might have something for you. So you play that slot machine to see what you got. That's not by accident. That's a design technique."

Are Your Google Search Results Biased?

Ask your library patrons to perform a simple Google search for keywords like "doctor," "professor," "Latinas" or any other group. Then, for the next 10 minutes, ask them to analyze these results to see if they can spot any biases connected to race, gender, sexual-orientation or other identity categories.

What Can We Do to Address Bias in Algorithms?

Screen *Coded Bias*, a documentary about MIT researcher Joy Buolamwini, who pushed for the first U.S. legislation against bias in algorithms. Ask your audience to research state and federal policies currently in place and brainstorm how, as a library community, we could advocate for changes in policies at the local and national levels.



Do You Read the Terms and Conditions?

Ask your patrons to find "Terms of Service" or "Terms of Use" for their favorite social media accounts. Then navigate them to their "Data Policy" page. After reading this policy thoroughly, ask patrons if they knew what their personal data could be used for. What do they think about those terms and conditions?

Threats and Opportunities Vision Plan

This program is a training session for library workers rather than patrons but can be an excellent way to come up with other program ideas. Together, brainstorm a vision for your library on responding to threats and opportunities that will come with more common use of AI. Create a plan to respond to a growing demand for instruction and knowledge about bias, data privacy*, and intellectual property.

REGULAR SERVICES

One of the best places to teach media literacy is at the point-of-need, where the users are.

Most library interactions occur during the delivery of services, such as reference interviews, technology classes, and interactions at the circulation desk. The following section will consider ways to incorporate small lessons about the architecture of the internet into your regular services.

Service Desk Handout

A service desk handout can provide a glossary of terms related to the architecture of the internet. Define the following terms: filter bubbles, cookies, confirmation bias, search engines, algorithms and web infrastructure. Aside from definitions, include a "call-out" box that explains—in the plainest language—why knowledge of the architecture of the internet is important.

LibGuide

Libraries might also want to create and direct patrons to a LibGuide that covers architecture of the internet concepts, or includes the concepts as part of a LibGuide on media literacy.

For example, **this LibGuide page** from the Briggs Library at South Dakota State University is included in the Media Literacy section of a research guide. **This LibGuide page** from ECPI Universities features a video on filter bubbles as part of a Media Literacy guide.

Reference Interviews

In the course of a reference interview, there are several points where the library worker can inject information related to architecture of the internet.

- **If the library worker is using a search engine** to find information with a patron, use the opportunity to explain the factors that influence the results, such as our current location, and possibly, our past search history.
- **If the library worker and patron are looking at an online news article** with embedded advertising, discuss why that particular ad may be visible, such as our physical location, and the target audience of the site.
- **Take the opportunity to model lateral reading:** to investigate the validity of an information source, leave the webpage and open a new browser tab to see what another, trusted website says about the source in question.

- **Provide one-on-one support.** Some libraries have found success by calling these sessions "Tech Office Hours" or "Digital Tutoring" and offering them at various times throughout the week. Pull in staff and tech-savvy volunteers to provide one-on-one support to patrons for questions pertaining to digital literacy and navigating the internet. These one-off sessions offer patrons guidance and provide answers to specific questions that boost their digital confidence and competence.
- **If you're teaching basic computer classes** (especially ones that offer an introduction to the internet), be sure to help your attendees understand how the internet works and how it affects them, including echo chambers, algorithms, and cookies.

Public Service Desk

Whatever your library calls it—"circulation," the "information desk," or "user services"—your public service desks are places for quick pathfinding and decision making. They are also excellent places to impart knowledge about the architecture of the internet. Here are some ways to incorporate key concepts into common public service desk interactions.

- **If a patron asks you for help finding information from an untrustworthy source,** discuss how they arrived at choosing the source, why they trust it, and who's behind it. Ask them what sources they've used in the past for their topic. Explain why verification of information from the source they've chosen may be problematic. You can also sit down with them at a computer and discuss search results from various platforms (databases, the internet), why they are getting certain results, and how the internet influences our results.
- **When helping a patron set up or renew a library card,** or during library tours or orientations, discuss how the library protects patron privacy and what privacy measures are in place when they're accessing their library account online or using library tech and the internet.
- **If your library offers technology equipment** (laptops, WiFi hotspots, etc.) for checkout, this can be a good opportunity to discuss online safety and privacy measures on shared equipment.

If a patron wants to share their political opinion, you might be likely to say something like, "We don't talk about politics." Instead, consider asking, "Where did you find that information?" or "Can I help you find more information on that subject?" to turn the conversation to media literacy and begin a conversation about echo chambers or algorithms. For example, a patron might say, "I saw it on Facebook," which offers an easy segue into how Facebook works, why you need to validate sources, and how.

Technology Help

During interactions with patrons about library technology, especially those who are novices or uncomfortable with digital tools, take the opportunity to introduce architecture of the internet terms along with other basic skills and concepts.

- **When helping a patron set up an email account,** discuss how email servers are owned by some of the same companies that libraries use to search, such as Gmail being owned by Google. If they search for something on Google, for example, it might show up as an ad in their Gmail account, or in their Instagram feed, due to tracking across internet platforms. If people sign up to receive emails from a particular website or company, such as a newsletter or notices about sales, this will affect the ads they see and the way their search results come up in Google. If they visit a wellness website and sign up for emails, for example, they're more likely to see ads on wellness-related topics on other platforms, and when they search on Google, might get results in a different order or different results than another internet user.
- **When teaching a patron about social media,** take a moment to discuss the platform's terms of service and privacy settings, and how internet platforms use personal information. When users gain access to a service on a platform, especially one that is free, they essentially "pay" for that service through collection of their personal data. And much of this collection occurs without them knowing explicitly that it is happening, although they have essentially signed a document (a terms of service agreement) that gives permission to the platform to collect this information for whatever uses it deems necessary.
- **When demonstrating how to use the library's catalog or databases,** including those controlled by outside companies rather than the library, explain what algorithms are, and that the website resources patrons use to search for information are influenced by algorithms that determine the kinds of answers presented to them.

Although architecture of the internet can be a complex media literacy topic, it's vital for internet users to understand how what we *don't* see online deeply affects what we *do* see on our screens. Libraries can provide opportunities through programming or regular one-on-one services provided to the public to help patrons understand the bones of the internet and how the structures and processes behind the screen control how we receive vital information.

RECOMMENDED COLLECTION MATERIALS

Below are books, documentaries, and other media related to the architecture of the internet that you may consider adding to your collections or including in programs.

Books

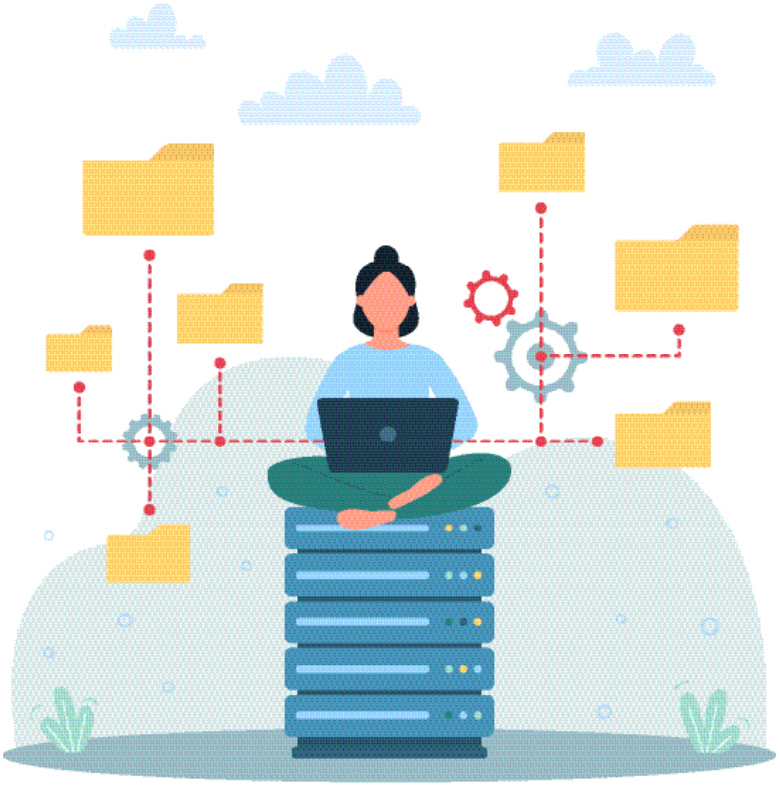
- *Algorithms of Oppression* by Safiya Noble
- *Feed* by M.T. Anderson
- *Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World* by Bruce Schneier
- *The Chaos Machine* by Max Fisher

Films and Documentaries

- *Coded Bias* (Netflix)
- *The Social Dilemma* (Netflix)
- *Frontline: Merchants of Cool* (PBS)
- *Frontline: Digital Nation* (PBS)
- *Frontline: Generation Like* (PBS)
- *Frontline: The Facebook Dilemma* (PBS)

ADDITIONAL RESOURCES

Below are additional resources you may find helpful when working to increase your understanding of the architecture of the internet or create media literacy programming and services.



- **Illinois Media Literacy Coalition Crosswalk of Academic Standards**, Illinois Media Literacy Coalition
- **Digital Literacy Framework**, Virginia Tech University Libraries
- **Digital Literacy in Higher Education**, University of Rhode Island / Media Education Lab
- **Critical Approaches to Credit-Bearing Information Literacy Courses**, ALA
- **Libraries Promoting Reflective Dialogue**, ALA
- **The Journal of Media Literacy**, published by the International Council for Media Literacy
- **Core Principles of Media Literacy Education**, National Association for Media Literacy Education
- **The Trouble with 'Information Literacy'**, scholar David Buckingham
- **Media Literacy in the Library: A guide for library practitioners**, ALA
- **Paying attention: The attention economy**, *Berkeley Economic Review*
- **What does privacy mean?**, International Association of Privacy Professionals
- **What is an algorithm and why should you care?**, Khan Academy
- **Large, creative AI models will transform lives and labour markets**, *The Economist*

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ALA American Library Association

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ALA PUBLIC PROGRAMS OFFICE | American Library Association

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